



Seed Care

Mike Erickson, The McGregor
Company





Seed Care

(“Seed Treatment”)

The application of EPA registered active ingredients, naturally occurring biostimulants, plant nutrition, and coatings to seeds to protect them from attack by fungi, insects, and environmental stresses, and to enhance performance and improve stand establishment of those seeds in reaching their FULL genetic potential.





Seed Care History

Smuts/Bunts (Black Powdery Spores)

- Sea Salt (Shipwreck Bristol England 17th Century)
- Copper Sulfate (Germany 18th Century, France 19th Century)
- Hot Water Treatment (Denmark 19th Century)
- Ethylmethyl Mercury (Germany 20th Century – Toxic to humans/animals – Discontinued in the 1970's)





Seed Care History Continued

Major Yield Robbing Diseases – Pythium, Rhizoctonia, Fusarium

- Vitavax (Uniroyal Chemical Carboxin 1960's)
- Thiram (Dupont 1931)
- Today – More than 100 different types of active ingredients, biostimulants, nutrient packages, and coatings applied to seeds

Massive Innovation in This Space (Protection of High Value Seeds)





Seed Care Issues

Loss of Valuable Active Ingredients

- Lorsban (Chlorpyrifos)
- Threatened
 - Thiram
 - Captan
 - Neonicotinoids
 - Cruiser (Thiamethoxam)
 - Gaucho (Imidacloprid)
 - Poncho (Clothianidin)

We must follow the science!





Seed Care Issues - Continued

Biostimulants

- Live Biology Including:
 - Naturally Occurring Bacteria & Fungi
- Extracts and Metabolites of Bacteria, Fungi, Plants, Aquatics
- Reasonable Regulation Around:
 - Performance
 - Seed Safety
 - Weed Out “Snake Oils”

Organic Treatments (Some are EPA registered)





Seed Care Issues - Continued

Today's Seed Treatments

- Protect today's high value seeds (Increased food production)
- Disease Specialists
- Resistance management
- Very very low environmental impact
- Safest we have ever had





Idaho's Sweet Corn Seed Industry

Anita Kiser, Crookham Company
Selena Virden, Illinois Foundation Seeds





Sweet Corn Seed

Why the Treasure Valley of Idaho?

- Climate
 - The Treasure Valley is a high desert climate with low humidity, which contributes to less bacterial and fungal pressure on sweet corn seed crops throughout the growing cycle. We also see minimal precipitation in the late summer/early fall which allows the seed crops to dry down properly leading to less mechanical damage at the time of harvest and better seed quality.
 - Low insect pressure when compared to other corn growing regions in the United States.
 - Less field corn grain and silage production in Idaho than other corn growing regions in the United States allowing for more opportunities to isolate the sweet corn seed crops from the field corn crops, which when cross pollinated can create issues in the genetic purity of sweet corn seed crops.
- Irrigation
 - Sweet corn seed crops require irrigation in Idaho. We have a high percentage of furrow irrigation which typically allows for better pollination and seed quality than overhead irrigation.
- Grower Base & Field Sizes
 - The Treasure Valley offers a wide range of field sizes, allowing for better placement of varieties for different market segments.





Sweet Corn Seed

Current Production

- Approximately 70% of the Global Sweet Corn Seed Production in the Treasure Valley of Idaho
- More than 10 companies in the region
- Estimated total of 6,000 acres of production
- Estimated total of 8.5 million pounds of seed
- Production value approximately \$18 million

Future Production

- Margins excellent (many over 50%), considered a growth crop in the seed industry
- Trend is for increased production

Future Challenges

- Urban sprawl and development is encroaching and reducing some of the best seed production land available.
- Cancelling of chemical label registrations in the U.S.A. and abroad
- Irrigation is vital to sweet corn seed production so any challenges brought against irrigation water rights is of concern.
- We have seen the wildfire smoke that can blanket the Treasure Valley, coming from Idaho and surrounding state's wildfires, negatively impact sweet corn seed crops.

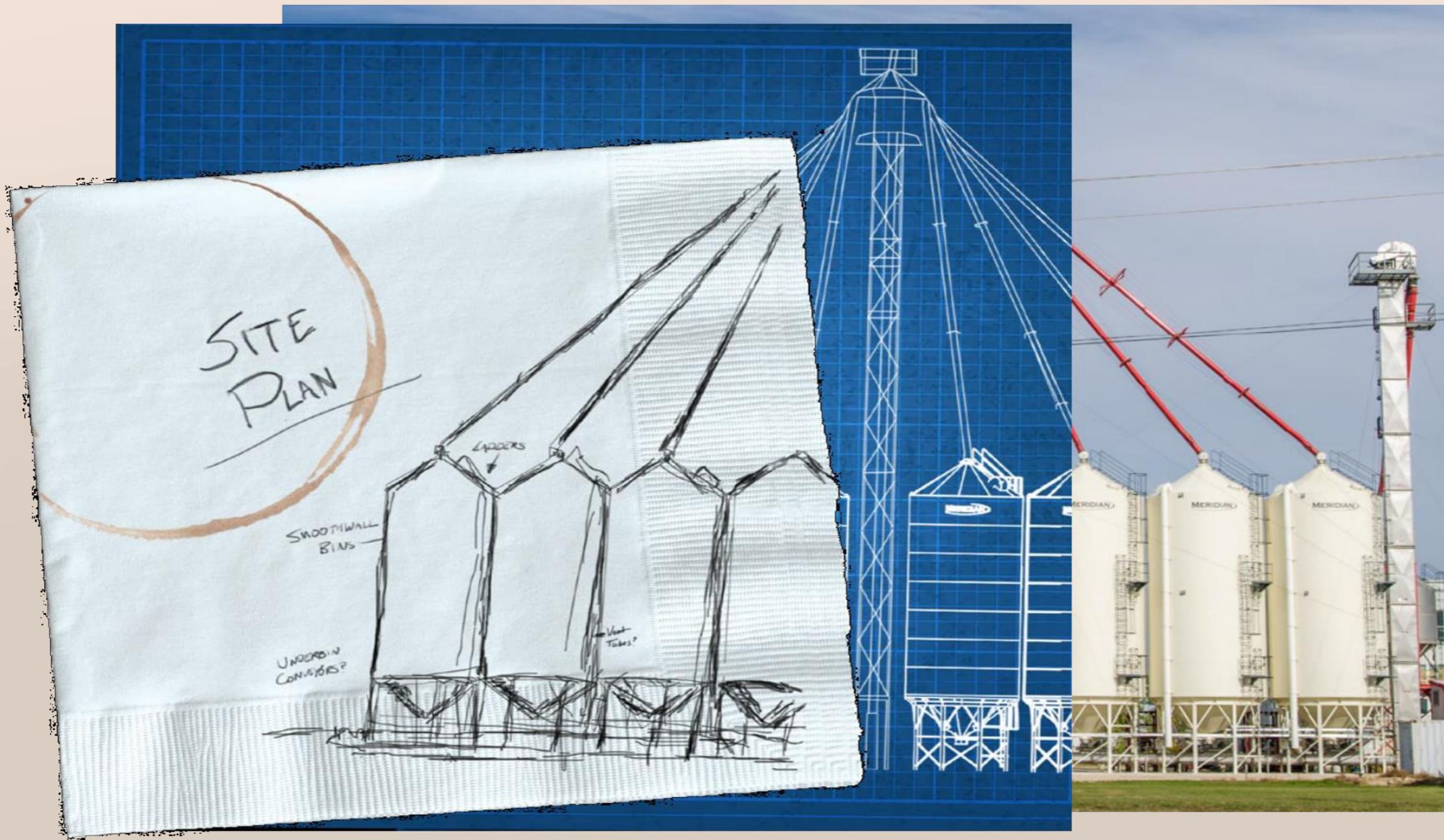




Seed Processing Equipment

Travis Parish, West Coast Companies





Concept - Design - Reality

EOUSA



**FIELD RUN
SEED**



**CONSUMER
PACKAGE**





SEED STORAGE





CONVEYING EQUIPMENT

UNIVERSAL



AIR SCREEN CLEANER





DENSITY SEPARATOR

IEOSA





COLOR SORTING EQUIPMENT

IEOSA





BAGGING EQUIPMENT



IEOSA



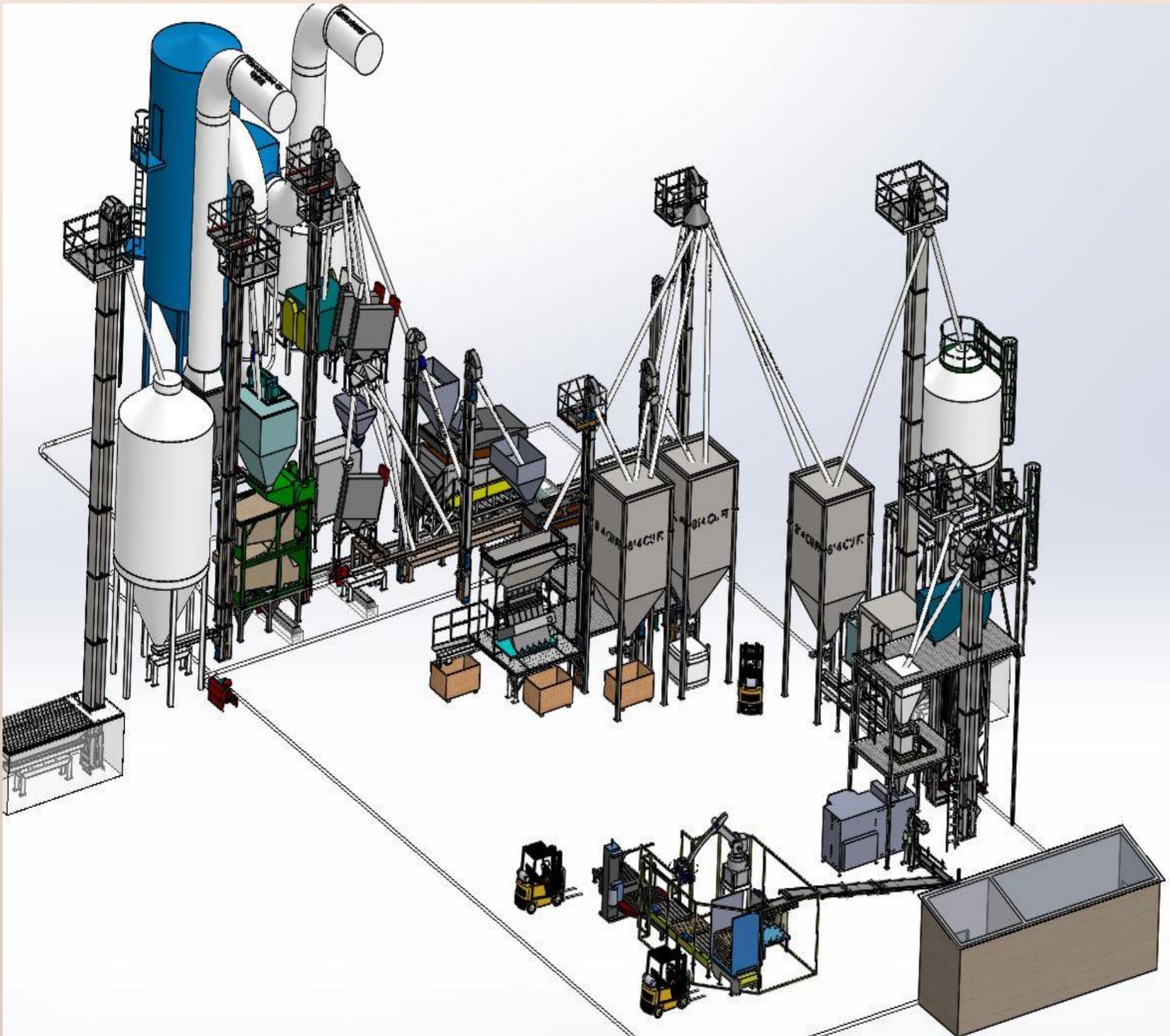
ROBOTIC PALLETIZING SYSTEMS

IEOSA



DUST CONTROL SYSTEMS





FINAL DESIGN





Reality





Idaho's Seed Industry

